

addressing any issue or as taking a particular position in respect of the claims of any co-pending applications.

#### The Pending Claims, In re Hack and Ex parte Gray

The claims pending in the current application are independent claims 17-25. The pending claims cover an improved cathode material comprising EMD (electrolytic manganese dioxide) with certain characteristics and properties. The pending claims are not directed to EMD per se nor to a cathode utilizing EMD broadly and generally, and so are distinguishable from the situation of In re Hack, wherein an intended use of an *otherwise known* composition was found of no consequence for patentability. Applicants' EMD is not acknowledged and has not been shown to be found in the art cited by the examiner, and In re Hack is consequently inapplicable to support the rejection of the present claims.

As noted above, pending claims 17-25 are directed to an improved cathode including EMD of a specified character. In order to support an "anticipation" rejection of the pending claims, the Examiner must cite art references disclosing a cathode comprising an EMD with the characteristics specified in the pending claims. It is well settled that the factual determination of anticipation requires disclosure, in a single prior art reference, of every element of the claimed invention. Further, the examiner must identify the manner in which each and every facet of the claimed invention is disclosed in the applied reference. Ex parte Levy, 17 U.S.P.Q.2d 1461,1462 (B.P.A.I. 1990). The Board in Ex parte Levy also acknowledged the inability of the U.S.P.T.O. to carry out comparative testing. However, prior to placing a burden of comparison on the Applicant, the Board noted that the Examiner must first establish a prima facie basis for denying the claims. Id. at 1463-64. Ex parte Gray is entirely in accord: "Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not *necessarily or inherently* possess the characteristics of his claimed product." (Emphasis added.)

In this instance, the Examiner has merely repeatedly stated that the cited art demonstrates the use of EMD. The Examiner has failed to indicate how the prior art references reveal the use of the EMD *specified by the pending claims*. Accordingly, the Applicants respectfully submit that the cited art does not support an anticipatory or obviousness type rejection of the currently pending claims.

Turning now to the cited art, the first rejection of the claims is based on Fleischer '681. The Examiner indicated that col. 6 of the patent reveals the claimed EMD. At col. 6, lines 55-61, the '681 patent does teach a cathode composition made from one or more of a number of materials. The metal dioxides disclosed therein include manganese dioxide; however, there has been no showing of any kind that the manganese dioxide would be characterized by a AA-cell discharge capacity at a 1 watt discharge of about 68.2 milliampere hours per gram or higher as provided by claim 17. Further, there has been no showing that the manganese dioxide contemplated by the '681 patent would have the characteristics described in pending claims 18-25. In sum, the Examiner has offered no basis at all for assuming that the EMD disclosed in the '681 patent has the characteristics of the EMD incorporated into the cathode of pending claims 17-25.

The next reference cited by the Examiner is Mieczkowska et al., U.S. Pat. No. 5,516,604. The Examiner indicated that col. 2 of the '604 disclosure reveals the EMD of the current invention. A review of the '604 patent indicates that the disclosure is directed to alkaline electrochemical cells utilizing manganese dioxide and an additive designed to increase the specific capacity of the manganese dioxide. In col. 2, Examples 1 and 2 describe the preparation of a conventional primary cell. Example 3 discusses the addition of  $\text{PbO}_2$  to the cathode. The Applicants respectfully submit that col. 2 of the '604 patent does not teach or suggest a cathode composition comprising EMD having the characteristics described in any one of pending claims 17-25.

The Examiner has cited col. 9 of Jacus et al. ('796) as another basis for rejecting the pending claims under 35 U.S.C. §102(b) or §103. The Applicants note that the Jacus disclosure is directed to an improved anode current collector. Jacus does not teach or suggest an improved cathode composition. Further, Jacus does not teach or suggest the addition of an EMD having the characteristics described by claims 17-25 to a cathode composition. Therefore, Jacus does not disclose the anode composition described by claims 17-25.

The fourth reference cited as anticipating claims 17-25 is Fleischer et al. '105, a continuation of Fleischer '681. The Examiner states that columns 7-8 of the '105 reference discloses the claimed electrolytic magnesium dioxide (the Applicants assumed that the Examiner intended to state manganese dioxide). A review of the referenced columns reveals only a discussion of materials suitable for forming a cathode. The materials mentioned include manganese dioxide in various forms. However, the disclosure neither teaches nor suggests the use of an EMD having the specific characteristics of the EMD incorporated into the improved cathode of the pending claims.

Further, the Examiner failed to provide any basis for an assumption that the EMD of Fleischer has the characteristics of the EMD used in the cathode of the pending claims.

Next, the Examiner cited the abstract of Sumida et al. '278 as the basis for rejecting the claims under 35 U.S.C. §102(b) and/or §103. Sumida's abstract and disclosure provides an EMD having a composition of  $\text{MnO}_x$ , wherein X is 1.90 to 1.96. The Applicants respectfully submit that Sumida fails to disclose a cathode composition of the type claimed by the currently pending application. Further, the Applicants note that the process described for preparing the  $\text{MnO}_x$  of the '278 disclosure differs significantly from the process used to prepare the EMD incorporated into the cathode of the current invention. Specifically, examples 1-3 of the '278 patent teach a process wherein the molar ratio of Mn to  $\text{H}_2\text{SO}_4$  is 1.5. In contrast, the Examiner's attention is respectfully directed to page 10, lines 6-22 of the current application. As noted therein, the process for preparing the EMD for the cathode of the current invention, uses a concentration of  $\text{H}_2\text{SO}_4$  two or more times the concentration of Mn. In view of the significant differences in the methods for preparing the EMD of the current invention and that used in Sumida, one could not prima facie conclude that the EMD used in Sumida's cathode would necessarily or inherently have the same characteristics of the EMD used in Applicants' currently claimed cathode. Therefore, the Applicants respectfully submit that rejection of the pending claims over Sumida, without additional technical support, is improper.

Finally, the Examiner has rejected claims 17-25 under 35 U.S.C. §102(b) and/or §103 as being anticipated by Davis et al., U.S. Pat. No. 6,143,446. The Examiner stated, "[t]he Davis patent discloses the claimed electrolytic magnesium dioxide (see column 4)." The Applicants respectfully submit that the EMD disclosed in the '446 patent clearly is not the equivalent of the EMD described in the current application. The Examiner's attention is respectfully directed to col. 2, lines 35-37, wherein Davis clearly states that any conventional form of manganese dioxide can be used in the disclosed batteries. Clearly, Davis does not disclose a cathode composition comprising EMD having any of the characteristics described by pending claims 17-25.

### Conclusion

Summarizing the foregoing discussion, the cited art does not describe (or make obvious) a cathode composition comprising EMD having any of the characteristics set forth in the pending claims. Rather, the cited references merely disclose the use of EMD in a cathode. In contrast, the currently pending claims recite a cathode composition comprising a specific form of EMD. As demonstrated by Table I on page 11 of the pending application, the specific form of EMD

incorporated into the cathode of the current invention has several advantages over conventional EMD. As a result of these advantages, the current invention provides an improved cathode.

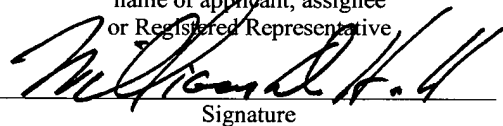
Further, the Official Action did not provide any facts or technical reasoning supporting the Sec. 102 rejection of the claims, or for shifting the burden of coming forward with evidence under Ex parte Gray or Ex parte Levy. Rather, the Examiner seems to have assumed that the EMD of the references is the equivalent of the EMD incorporated into the claimed cathode, or perhaps has misread Ex parte Gray as shifting the burden of proof as to novelty to Applicants. An assumption does not suitably support an anticipatory rejection of the pending claims. The Examiner must provide facts and/or technical reasoning in support of rejections of this nature.

In view of the foregoing arguments over the cited art, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection of the pending claims. A formal Notice of Allowance of Claims 17-25 is earnestly solicited. Should the Examiner care to discuss any aspect of the foregoing response in greater detail, the undersigned attorney would welcome a telephone call.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, Washington, D. C. 20231, on October 4, 2002.

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Signature

Oct. 4, 2002

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